

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 01-260890

(43)Date of publication of application : 18.10.1989

(51)Int.Cl.

H05K 3/46  
H01L 21/90

(21)Application number : 63-088805

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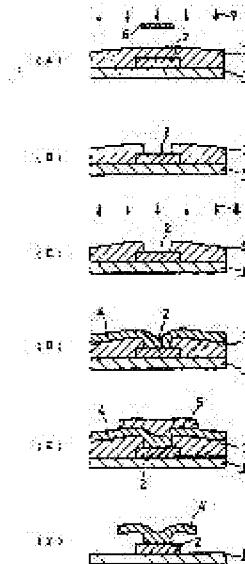
(22)Date of filing : 11.04.1988

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## (54) FORMATION OF MULTILAYER INTERCONNECTION PATTERN

### (57)Abstract:

**PURPOSE:** To optimize the tapering angle of a through hole, to flatten a conductor layer, to simplify manufacturing steps and forming an air bridge structure, by temporarily using a resist layer having good leveling as an interlayer film, forming an upper conductor layer on a lower conductor layer, performing projection of ultraviolet rays and heat treatment for optimizing the tapering angle of a through hole that is formed in the resist layer.



**CONSTITUTION:** A light hardening photoresist layer 3 is directly formed on the entire upper surface of a lower conductor layer 2 on a substrate 1. Ultraviolet rays 7 are projected through a photomask 6. Patterning for through hole wherein the lower conductor layer 1 and the upper conductor layer are connected is performed on the photoresist layer 3. Then, the photoresist layer 3 is heated. Ultraviolet rays 8 are further projected. The tapering angle of the through hole part in the photoresist layer 3 is freely adjusted. Then, an upper conductor layer 4 is formed on the photoresist layer 3. Thereafter, a resist layer 5 for patterning the upper conductor layer is formed, and patterning is performed. Then, the unnecessary part of the upper conductor layer 4 is removed by etching. A patterned upper conductor layer 4' is formed, and an air bridge structure is formed.